



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,518	06/26/2003	Takami Shibazaki	16790	6263

23389 7590 10/13/2006

SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER

PATEL, SHEFALI D

ART UNIT	PAPER NUMBER
----------	--------------

2624

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/606,518		SHIBAZAKI ET AL.	
	Examiner		Art Unit	
	Shefali D. Patel		2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,21,26,44 and 49 is/are rejected.
- 7) ☒ Claim(s) 4-20,22-25,27-43 and 45-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

JINGGE WU
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment to the specification and drawings (Figure 17) has been accepted and made of record.

Response to Arguments

2. Applicants' arguments filed on August 3, 2006 (Remarks on pages 4-8) have been fully considered but they are not persuasive.

Applicants argue on page 5 stating:

"...since the excitation wavelengths of nonspecific fluorescence and specific fluorescence are different, the amounts of light emission are also different. Therefore, even if the Ramm technique is used, it is impossible to estimate and remove an accurate amount of nonspecific fluorescence contained in an object to be measured (for example, noise from dust contained in a specimen). In contrast, the florescent intensity measuring method of claim 1 is directed to removing a nonspecific fluorescence contained in an object to be measured. This nonspecific fluorescence may be "noise" generated by foreign matter, such as dust contained in the specimen."

The examiner disagrees.

First, nowhere in the (at least) claims 1 and 49 language a mention of "noise" or "dust contained in a specimen." In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., noise from dust contained in a specimen) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, applicants argue stating that because the wavelengths are different for two images in Ramm, it is impossible to estimate and remove an accurate amount of nonspecific fluorescence contained in an object (emphasis added by the examiner). Please note in Ramm on page 31 lines 8-11 where acquiring bias images of a specimen is disclosed. Later on the same page 31 lines 24-32 where the bias images (which takes into account all significant distortions and errors) are being compensated and is

Art Unit: 2624

subtracted from the non-specific image. This removes the distortion and any errors in the image itself.

There is no mention of “removing an accurate amount of nonspecific fluorescence contained in an object” in the claim limitations. Applicants’ arguments regarding this are unconvincing. These components are not recited in the claims.

Applicants argue on page 6 stating:

“Neither the step of obtaining a binarized image of the non specimen (foreign matter) material nor the step of eliminating the non specimen material from the specific and non-specific images by using the binarized image as a mask are disclosed or suggested by Ramm. In contrast, the correction as to the nonspecific background fluorescence in Ramm is made by subtracting the nonspecific image from the specific image... This is very different from obtaining the binarized image and using the same as a mask as is recited in claim 1.”

The examiner disagrees.

The examiner had agreed in the previous office action by stating that Ramm does not expressly disclose an extraction step of obtaining a binarized image by extracting a foreign matter area from the second image. Dixon does. Dixon discloses a scanner scanning a substrate generating a digitized image and sending the image to a computer 103 (this process is binarizing the image).

Applicants argue on page 7 stating:

“...in contrast to the method and apparatus of claims 1 and 49, respectively, only an image corresponding to an empty scene is subjected to contamination recognition. With such a method, a contamination can be recognized of only the measuring system (in Dixon, the scanner) but not a contamination on the specimen and thus, in the method of Dixon it is impossible to remove a nonspecific fluorescence contained in an object to be measured (for example, noise from dust contained in a specimen).”

The examiner disagrees.

The motivation to combine these two references is given in the previous office action and it is mentioned here again with explanation. The problem of contamination is not only known in the art but also disclosed by Dixon. A microtiter plate reader (on page 21, lines 2-6) that is calibrated by eliminating from the image pixels deemed as unreadable (nonspecific fluorescence in Ramm) because of contamination (page 23 line 30 to page 24 lines 1-21). The motivation for doing so is to binarize the

Art Unit: 2624

image by analyzing pixel as in Dixon to eliminate the distortion and/or errors in an image (i.e., bias images in Ramm). Please further see page 23 line 30 to page 24 lines 1-15 for more details on how the binarizing the image (black and white pixels/grey scale image/8-bit value for each pixel) is disclosed by Dixon.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 21, 26, 44 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramm et al. (hereinafter, "Ramm") (WO 98/07022) in view of Dixon et al. (hereinafter, "Dixon") (WO 00/05571).

With regard to **claim 1** Ramm discloses a fluorescent intensity measuring method which measures the intensity of minute points which are arranged on a substrate having a substantially flat surface and include a fluorescent substrate (page 1 lines 14-22, also Figure 9), comprising: a first imaging step of emitting light with a wavelength with which the fluorescent substance can be excited and obtaining an image (i.e., specific image) of each minute point including the fluorescent substance as a first image (page 30 line 37 to page 31 lines 1-2); a second imaging step of obtaining an image of foreign matter (i.e., non-specific image) adhering on the substrate as a second image by light with a wavelength which does not excite the fluorescent substance (page 30 lines 3-37 and page 31 lines 13-15); and a foreign matter elimination step of disabling an image at a part overlapping the foreign matter area in the first image with the binarized image being used as a mask (page 31 lines 28-30). Ramm does not expressly disclose an extraction step of obtaining a binarized image by extracting a foreign matter area from the second image. Ramm implicitly discloses this step. Dixon discloses a scanner scanning a substrate generating a

Art Unit: 2624

digitized image and sending the image to a computer 103 (this process is binarizing the image). Ramm also does not disclose the image of foreign matter constituted by contaminants adhering on the substrates. Ramm discloses all the elements that are extraneous from the fluorescent specimens. Nonetheless, the problem of contamination is known in the art and Dixon discloses a microtiter plate reader (on page 21, lines 2-6), which is calibrated by eliminating from the image pixels deemed as unreadable because of contamination (page 23 line 30 to page 24 lines 1-21). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Dixon with Ramm. The motivation for doing so is to binarize the image by analyzing pixel as in Dixon to eliminate the foreign matter. Therefore, it would have been obvious to combine Dixon with Ramm to obtain the invention as specified in claim 1.

With regard to **claim 2** it would have been obvious matter of design choice to modify the Ramm reference by having an expansion step since applicant has not discloses that having this expansion steps solves any stated problem or is for any particular purpose and it appears that the acquiring non-specific bias and image in Figure 9 of Ramm would perform equally well with the expansion step for expanding the foreign matter area of the binarized image as recited in claim 2.

With regard to **claims 3 and 26** Ramm discloses a normalizing step of normalizing the measured intensity of the minute point by using a reference area of the minute point on page 31 line 34 to page 32 lines 1-8.

With regard to **claim 21** Ramm discloses a correction step of correcting the second image by using a reference image at element 220 and 224 in Figure 9 and its respective portions in the specification.

Claim 44 recites identical features as claim 2. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 44.

Claim 49 recites identical features as claim 1 except claim 49 is a system claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 49. Please note that Ramm discloses a system of claim 49 including a light source, wavelength selector and an imaging device.

Allowable Subject Matter

5. Claims 4-20, 22-25, 27-43 and 45-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D. Patel whose telephone number is 571-272-7396. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shefali D Patel
Examiner
Art Unit 2624

sdp

JINGGE WU
PRIMARY EXAMINER

